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THE LAND MARKET IN PRE-INDUSTRIAL SOCIETY: ENGLAND AND WALES, 1540-1837

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THE LAND MARKET IN PRE-INDUSTRIAL SOCIETY: ENGLAND AND WALES. 1540-1837[1]

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It is widely believed that land in pre-industrial societies was sought for status and political power as well as for material returns. Where this was true land prices would be bid up, and the monetary returns on land would be lower than on other assets. Using new data on the returns on land and other assets in England between 1540 and 1837 this paper shows that the monetary returns on land in pre-industrial England were the same as for assets which gave no such psychic income. At least some land purchasers were thus indifferent to the status value of land. In contrast in India from 1850 to 1960 the return on land was only half that of comparable assets. Land purchasers in pre-industrial England were thus unusual in being interested mainly in material returns. Since even in the middle ages in England land yielded a comparatively good return "capitalist" agriculture, in Marx's terminology, has a long history in England.

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1. INTRODUCTION

Historians have typically assumed that land in England yielded- a lower return than other investments from the sixteenth to the nineteenth centuries because land conferred status in a way that other assets did not. Thus its price was bid above what its material returns would imply. The difference in returns between land and comparable assets, normally taken to be mortgages on land, is variously estimated at between 1 and 2% in the eighteenth century, but as much as 5% in the early seventeenth century.[2]

The situation assumed for the pre-industrial land market in England can be observed in other pre-industrial societies. In both British India and modern India, for example, land does seem to have had the special status as an asset assumed by historians of pre-industrial England. Records exist in the Punjab, for example, from 1848 on of both land prices per acre and of the amount that was paid per acre for usufruct mortgages of land. The usufruct mortgage gave the mortgagor possession of the land as payment of the interest on the loan until the mortgage sum was repaid, and the repayment could be made in any year after the harvest at the discretion of the borrower. The amount offered for land on such mortgages should not equal the full price of the land. For if nominal land values increase the owner will get the benefit but the mortgagor will not. But in periods of little expected inflation in nominal land values, such as the late nineteenth century, if land was sought only for its material returns then the mortgage value of land should be close to the price. In practice land was mortgaged for only about half its sale value from 1848 on.3 This would imply a difference in rates of return of 5% or more. "Owning" land had value to peasants in the Punjab, even when the derived no material return from the land (as when it was in the hands of the mortgage holder).

[2] See Habakkuk (1952), Stone (1965), Clay (1974), Beckett (1984), Clay (1984a), p. 163, Offer (1991) and Habakkuk (1994).

[3] See Kessinger (1974), Table 19, p. 133, Narain (1932), pp. 110, 138, 143.

The view that land was a preferred asset implies that in the years leading up to the Industrial Revolution capital in England would be overinvested in land, if we were to measure only the monetary value of the returns from this capital, compared to other assets such as houses, transportation systems, trade, and industry.[4] The social prestige associated with land could thus have delayed industrialization by making capital for industry more costly than would otherwise be the case.

Recently Robert Allen has disputed the accepted view that the return on land ownership was low. While he quotes figures showing the net return on land between 1600 and 1815 was on average 2% less than on mortgages, he argues that the difference can be accounted for by expectations of capital gains on land, and that land yielded a rate of return equivalent to other assets once we include expected capital gains. He offers no evidence, however, that people did project the capital gains of the last 10 or 20 years into the future when they considered investing in land as his argument requires.[5]

This paper considers whether there really was a premium on land values in preindustrial England so that returns on land were low. I show using data from the Charity Commission reports and a number of other sources that correctly estimated the difference between the net return on land and comparable assets was small before 1837, only 0.5%. Thus we can see that the value of land was largely determined by its monetary returns rather than social prestige without having to postulate that purchasers had complicated expectations of capital gains from land.

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[4] Much of the value of land was from the capital invested in improving it. If investors derived utility from landownership per se, then this would not imply that capital was being invested where it had a lower value of output, for the psychic returns from landownership would compensate for the low monetary returns.

[5] Allen (1988).

Further the paper shows that there was no connection between the return difference between land and other assets and past or future capital gains.

Even this 0.5% difference in returns on land compared to other assets seems to have stemmed from differences in the risk characteristics of land compared to other assets, rather than from the status value of land. I show this in two ways. First the return on land was the same for pieces of land less than 5 acres in size that would be bought for purely commercial purposes as it was for pieces of greater than 200 acres that could constitute estates or be used to form estates for the prosperous. Second there is no indication that areas of the country where the demand for land from "prestige" purchasers was higher had lower rates of return on land.

Some large landowners may have derived a psychic premium from owning land above its monetary returns. But the pool of land available to meet this demand was large enough, at least until the nineteenth century, that such purchasers did not have to pay anything in lower returns for the status value they derived from land. There was thus no "over-investment" in land in pre-industrial England. The allocation of capital between agriculture and commerce and industry was determined, as far as we can tell, by the monetary returns of capital in each activity.

Figure 1 shows how some owners might still get an extra psychic return from owning land even if the material rate. of return on land was the same as comparable assets. The vertical axes shows the price various bidders would offer for land ranked from those who would pay most to those who would pay least. It thus shows the demand curve for land, denoted by DD. The lowest bidders are those who derive only a monetary income from land with no psychic return. They would bid a price $P^* = R/r$, where R is the money rent, and r the rate of return on capital in the economy. Those who get a psychic return would bid more than P^*, and would thus be willing to buy land at a price where the monetary rate of return is below r. The figure also shows the total supply of land which is the vertical line SS. The monetary return on land can be the general rate of return only as long as the marginal land buyers derive no psychic income from land. Thus as long as those who derived psychic income from land ownership did not occupy all

30 million acres of farmland in England and Wales, and all farmland is of the same type, the monetary return on farmland would be the general rate of return.

FIGURE 1

The demand curve for land can shift for two reasons. One is that values could change so that more or less people would derive psychic income from land. The other is that since the supply of land is fixed the changes of the Industrial Revolution period could result in more demand for land by those who derived psychic returns. The great population gains and the rise in incomes in this period meant that the demand for farmland from those who derived psychic returns might well sharply increase. Thus Avner Offer's argument for the existence of a psychic premium in the prices of land in the nineteenth century is quite compatible with the-argument below that there is little sign of this premium before 1790.[6]

2. THE TRADITIONAL VIEW OF THE MOTIVES FOR BUYING LAND

There is no dispute that land had status value for a least some purchasers in England. Writing of the sixteenth and early seventeenth centuries, for example, Lawrence Stone notes that those who made money in trade, industry, the law, and politics "hastened to turn their wealth into a landed estate."[7] Since landownership became necessary for access to political power at the local and national level consequently it was "supreme as a status symbol."[8]

Land seemingly had status value both for the very rich and for the moderately.prosperous. The psychic benefits of land ownership, as John Habakkuk calls them, were many for the wealthy.

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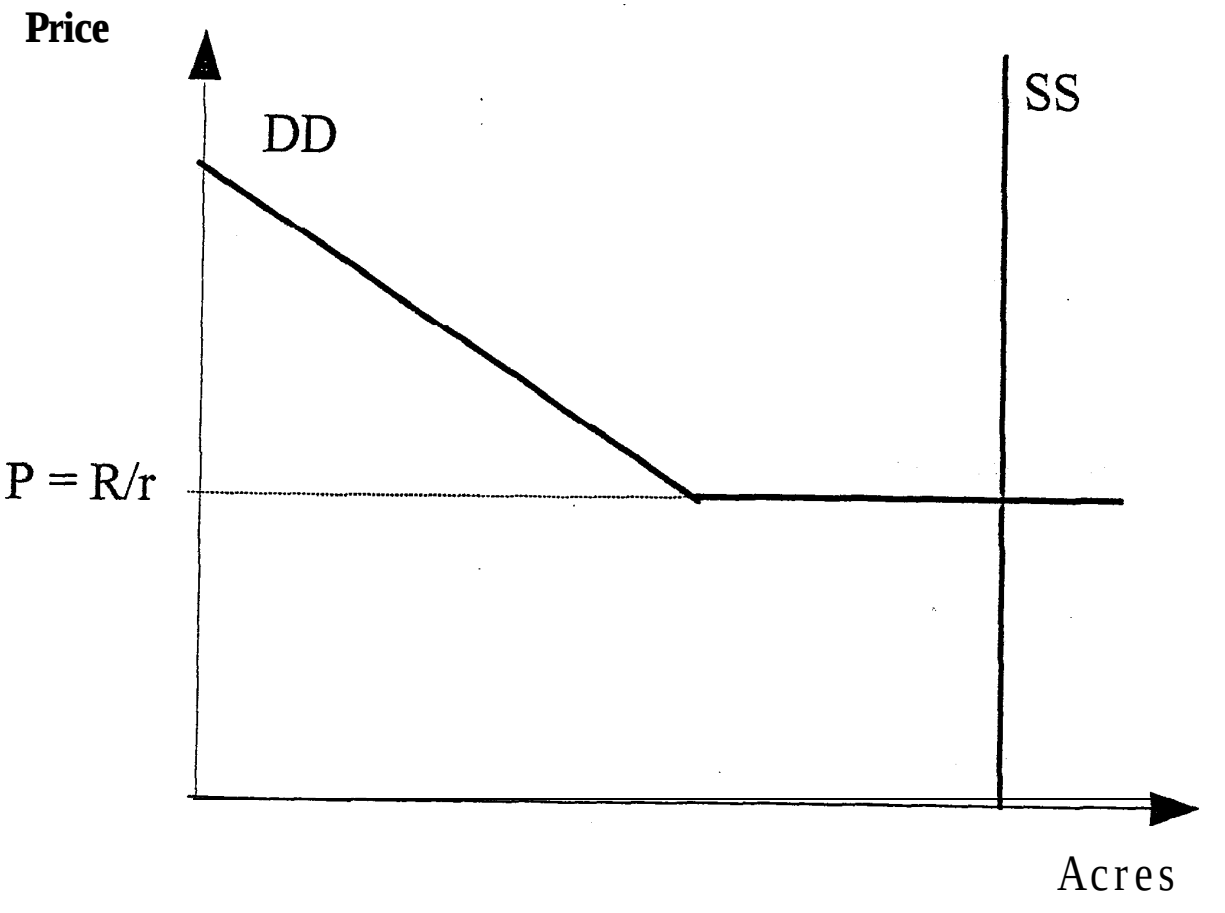
6 For the years where the data in this and Offer's paper overlap both sets of data indicate a similar premium in land prices.

7 Stone (1965), p. 39.

8 Stone (1965), p. 41.

FIGURE 1: THE DEMAND AND SUPPLY OF FARMLAND



R/r is the amount that would be bid for land by those who valued only the monetary return, where *r* is the monetary-rate of return on equivalently risky assets.

Landed estates exhibited wealth in a way that other assets did not.

> land was the most visible and therefore the most effective way of exhibiting wealth. No one could tell the worth of a money fortune or assess the value of the assets in which it was held. But anyone could make a shrewd guess at the value of 1,000 acres.[9]

The estate allowed for enjoyment of a distinctive and prestigious lifestyle, involving entertainment, sport, and a place at the head of the local community.

> It provided the base for a distinctive style of life with its particular rituals and institutions. The owner of an estate, furthermore, was the head of a community of tenants and labourers.[10]

Finally the estate granted entry to a variety of social and political positions - magistrate, High Sheriff, Lord Lieutenant of a county, and membership in Parliament. "In many cases the acquisition of an estate was the prelude to an attempt to enter Parliament."[11]

Not only the very rich who purchased estates of 500 to 30,000 acres would get these benefits. For a country estate had attractions even to those who made modest fortunes in law, commerce, manufacturing, war and medicine. Habakkuk details how many such men invested in more modest "mini-estates" of 200 acres or less. "The mini-estate however did enable the owner to 'play the squire' in villages where there was no resident estate owner...In many counties sporting life was sustained by the activities of such men."[12]

Habakkuk believes that as a consequence of their psychic returns estate prices were bid up beyond what their money rents would indicate so that they yielded a low monetary return as an

9 Habakkuk (1994), p. 403.

10 Habakkuk (1994), p. 403.

11 Habakkuk (1994), p. 403.

12 Habakkuk (1994), p. 613.

investment, and "this lower yield reflected in part the psychic attractions of estate ownership."[13]

Christopher Clay also accepts that to get "the social advantages a landed estate conveyed" the investor in the seventeenth century had to accept "a lower rate of return on capital."[14] Elsewhere he notes of the eighteenth century that investing in land "meant accepting a significantly lower rate of return from capital."[15]

Habakkuk believes that ordinary farmland was treated much more as an investment, and would consequently yield a higher rate of return. On Habakkuk's view there was a segmented land market operating with different rates of return. Since there was no intrinsic distinction between land formed into large and small estates and regular farmland it is hard to understand how this segmentation would be maintained. Estates were assembled and enlarged-by putting together smaller pieces of "commercial" land, and land was sold from estates to re-enter the "commercial" sector. Thus Habakkuk notes that, "very few established families, at some time in the course of the two centuries before 1870, did not buy properties in the neighborhood of their main estate."[16] If these two land uses yielded very different rates of return then there should have been substantial gains available to speculators who put together purchases of ordinary farmland to form estate and mini-estate sized parcels. We can test this view by looking at returns on land as a function of the size of the parcel

It is also widely believed that the prestige demand for land drove down returns in locations such as the area around London where there were many potential purchasers of land for the purpose of forming estates or mini-estates. As Clay notes,

13 Habakkuk (1994), p. 407.

14 Clay (1984a), p. 163.

15 Clay(1974), p. 185.

16 Habakkuk (1994), p. 477.

> Almost every author who dealt with the subject pointed out that near London and other major urban and industrial areas, purchase rates were noticeably higher than elsewhere, owing to the demand from those who had made money in commerce and industry. And clearly it was so.[17]

Habbakuk also argues that the motive of enjoying the country life led to an enhanced demand for estates at a convenient distance from London.

> The growth of London as a social centre induced some landowners whose main seats lay inconveniently remote from London to buy not only a town house, but a country mansion within easy reach of the capital.[18]

We thus see in this accepted story of how the land market operated a set of empirical claims that can be tested:

(1) The monetary return on land was lower than on comparable assets.

(2) The monetary return on large estates was lower than on small plots of land.

(3) The monetary return on land was lower close to London than in areas remote from urban concentrations.

3. THE DATA SOURCES

To measure the cost that investors in land paid for their psychic returns we need to compare the returns on land with a comparable asset in terms of risk. The other things that investors could put money into were rent charges, bonds, mortgages, and later government securities. Previous discussions of the return on land in the sixteenth and seventeenth centuries by Habakkuk, Clay and Allen have compared the return on land to that on mortgages. A better asset to measure the size of the return discount on land, however, is the rent charge.

17 Clay (1974), p. 181.

18 Habakkuk (1994), p. 486.

The rent charge was a perpetual obligation to pay a fixed nominal amount secured by land or other real property. It could only be redeemed if both the land owner and the person who owned the right to the fixed annual payment agreed to its termination.[19] Thus like land rent charges were long term secured investments. Many pieces of land had some kind of rent charge attached to them . As with land rent charges were not affected by usury laws so that the return could vary freely. Rent charges were also of comparable risk to land. The default risk was somewhat less than for owning land outright in that they generally were secured by land worth considerably more per year than the rent charge. Thus the chances of receiving less than the contracted return were low. But the real returns from the rent charge were more variable since land as a real asset was secure against general price inflation.

Rent charges carried little of the social prestige associated with land ownership. The land owner controlled the land directly, farming it himself or renting it to tenants. The land owners possession was generally visible for all to see. The rent charge owner, however, could be quite invisible in the local society. They would collect their return from the land owner, but they would have no say over who farmed the land, or what laborers were hired to work the land.

Suppose r_L is the ratio of land rents to land prices. This is the current nominal return on holding land. The full nominal rate of return from holding land, r, if nominal land rents rise at a constant rate ρ is given by,

[19] Rent charges were sometimes also referred to as "fee farm rents". The rent charge existed from at least the twelfth century. Rent charges were still being created in the eighteenth century. Later the main transactions involving rent charges were their sale to third parties, or to the owner of the land. When tithes were commuted in 1839 and later they were often replaced by "tithe rent charges" which were fixed money payments to the tithe holder in perpetuity from the land. The legal properties of the rent charge were largely unchanged between the middle ages and the twentieth century. See Edwards (1904), Cheshire (1962), Pollock and Maitland (1895).

$$r = r_L + \rho .$$

The nominal monetary return from holding a rent charge is simply,

$$r_C = R_C / P_C$$

where R_C is the annual payment under the rent charge, and P_C the price, since the rent charge is for a fixed sum. Suppose that for each £ invested in land, there is a psychic return in the form of prestige and social position which amounts to £ Φ. Then if the market for land and rent charges is competitive, and the gain in nominal land values is anticipated, it must be the case that

$$r_C = (r_L + \rho) + \Phi$$

$$\Rightarrow \quad \Phi = (r_C - r_L) - \rho$$

If land buyers on average expect that land prices are as likely to go up as go down, then the psychic premium from owning land will reduce to

$$\Phi = r_C - r_L .$$

This paper constructs estimates of r_C, r_L, and ρ for 10 year intervals between 1540 and 1837 to measure the premium attached to holding land, and whether it varied over time.

The data the paper uses to make this calculation are principally drawn from the accounts of charities in England and Wales as reported in the Reports of the Charity Comtnissioners issued between 18 18 and 1837. The Charity Commission examined the histories of the asset holdings of charities in most parishes in England and Wales in the course of its investigation which lasted from 1818 to 1837. Often the commissioners gave details on the purchases and sales of assets such as land, tithes, houses, rent charges, mortgages, and private bonds. A rent charge was a fixed perpetual nominal obligation The typical way the details of a transaction would come to be noted in the Charity Commission reports is that in discussing each charity the Commissioners noted any details of the original purchase of land or rent charges that they could glean from the documents retained by the charity. They did this because they were concerned to check that no land had been

lost to the charity over time, and that rent charges bought earlier were all still being paid. The Charity Commission reports generally give the location of the asset purchased or sold. Since they were interested to ensure that charities were being used for the purpose specified by the donor they also frequently give details of these wills, including what stipulations donors made as to what the rate of return would be on land and other assets bought with their gift: a person would, for example, specify in their will of 1621 that they were leaving £100 to buy land of the current yearly value of at least £5 to be used for bread for the poor.

These data are supplemented in the case of returns on land holding by information on land sales from the reports of the Royal Commissioners of Woods, Forests, and Land Revenues for 1799 to 1828, from the inventories of the directors of the South Sea Company in 1721, and from an article by Christopher Clay.[20] There are abundant data in the Charity Commission reports and these other sources on both the returns on land and on rent charges. Table 1 shows the set of observations available from these sources in each subperiod, and the types of observation.

TABLE I

How representative are the Charity Commission observations of capital market conditions in the country as a whole? Might charities, for example, be careless purchasers and poor managers of assets so that the returns they achieved were lower than those in the general private market conditions? Since charities as institutions presumably did not care about the social prestige to be derived from land ownership there may also be questions about whether the data derived from this source will show the social premium derived from landownership by private land owners, and in particular by the owners of the great landed estates.

20 See the sources to table 1, and Clay (1974).

TABLE 1: COMPOSITION OF RATE OF RETURN OBSERVATIONS

TYPE	Pre-1688	1689-1769	1770-1837	ALL
Land:				
actual	111	196	194	501
expected	**247**	**127**	**2**	**376**
Rent Charges:				
actual	369	**233**	**112**	**714**
expected	95	50	**3**	148
Mortgages:				
land	**6**	**35**	**173**	**214**
turnpike	0	19	**22**	**41**
Bonds				
actual	28	**114**	**469**	**611**
expected	48	42	11	101

Notes: The number of observations drawn from each source for this period is: y Commission Reports, 2704; South Sea Bubble Directors, 159 (1715- 172 1); Reports of Forestry Commissioners, 78 (1797-1828).

The expected return under each category are the returns donors to charities specified they expected their donations to earn invested in the fashion specified.

. The answer to these worries is fourfold:

(1) If the land market was reasonably competitive then charities were bidding for land against potential private buyers who would give extra value to land as an investment as well as selling land to such investors. Thus the prices they paid will reflect this premium.21

(2) Since we have data for some years on returns on land from the estate sector from such sources as Clay (1974) we can test whether the return on charity land in these periods was any different from that on estate land. We shall see there is no difference.

(3) Part of the information we get from the Charity Commission reports are the returns donors to charities expected the land purchased with their donation to yield. We can use these estimated rates of return, presumably derived from the donors experience in the land market, to independently estimate the psychic nremium from land ownership in the private sector. Again we shall see there is no difference between expected returns and the actual achieved returns.

(4) Charities bought land in all sizes from less than an acre, to more than a thousand acres. Suppose the psychic premium attached only to land in estate sized parcels. We can test to see whether the rate of return declines with the parcel size. Did parcels big enough that the land could be used as a mini-estate or an estate offer a lower rate of return?[22]

We can illustrate the variation in the size of land purchases by Table 2 which shows the frequency of each size of purchase. The first column shows the frequency of each size of purchase where the area in acres is given in the Charity Commission reports. The second column

21 This raises the question of why charities would then buy any land if it earned a lower monetary return than other investments. But charities were often required by the donors to invest the gifts in land. And as we shah see there is in fact little evidence of a psychic premium attached to land.

22 Though if this is truc it raises the question of why owners of large estates did not split them into smaller units to sell them.

gives the equivalent size of purchase in terms of acres of standard farmland where what the charity commission reports is the return a donor expected his or her gift would yield. The last column shows the distribution of equivalent estate sizes from the various data sources combined, where the rental value of each plot or estate is converted into an equivalent acreage based on the average value of farmland in the year in question.[23]

TABLE 2

Thus we can use our data to test if there was any sign that large properties sold at higher prices for a given amount of rent than small properties which might be bought for more commercial purposes. Thus if there was a psychic premium attached to land ownership we would expect it to show up in the Charity Commission data, through smaller purchases shbwing a higher rate of return than larger purchases.

The information on land purchases in my combined data set is well distributed across the country in all periods since the Charity Commissioners inquired into charitable holdings and their origins in almost all the parishes in England and Wales in the course of their investigation. Figure 2 shows the distribution of the observations across England and Wales where the location is known.

FIGURE 2

I will use this location information to examine whether the widespread view that prestige demand for land led to returns near London being lower than in more remote areas of the country is correct.

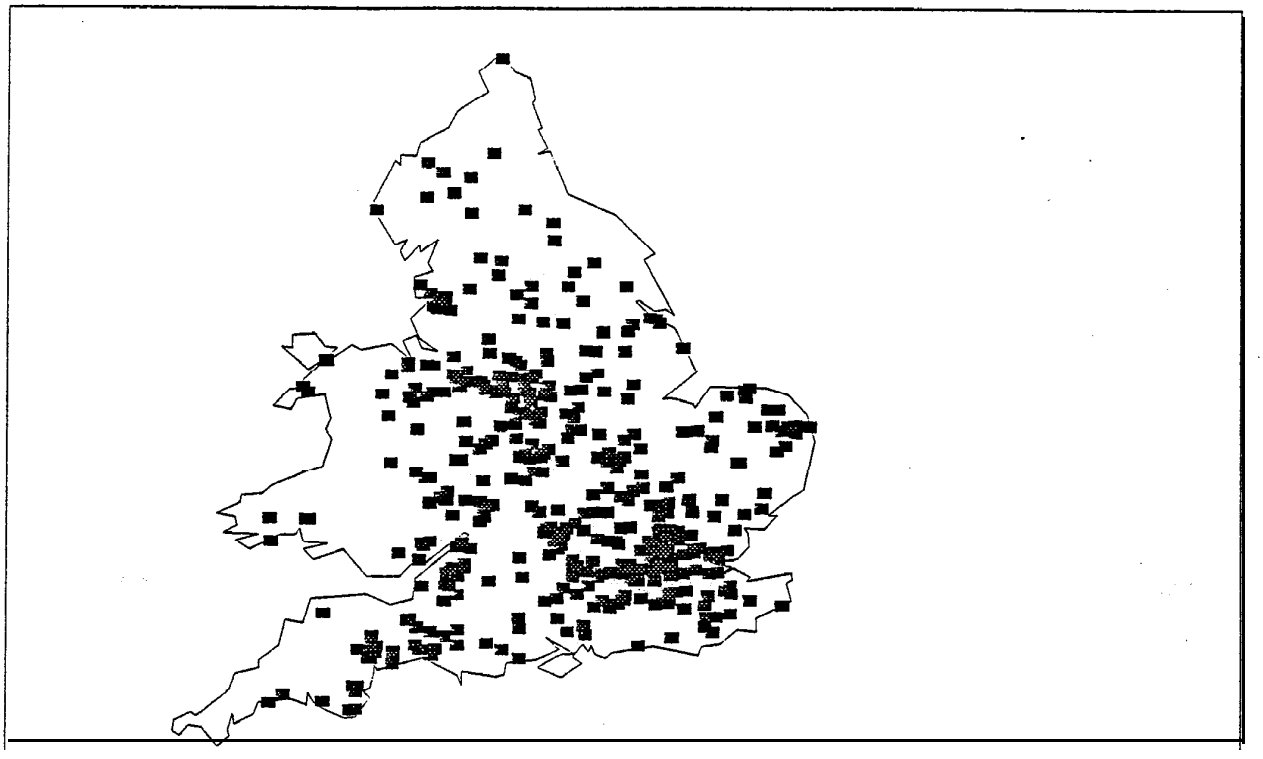
23 The money values were converted into the equivalent amount of farmland by use of an index of rental values of farmland derived from 20,000 observations on plots of land from 1540 to 1837 given in the Charity Commission reports.

TABLE 2: THE DISTRIBUTION OF PURCHASES BY EOUIVALENT LAND SIZE

SIZE (ACRES)	CHARITY COMMISSION (%, REPORTED AREAS)	**CHARTTY** COMMISSION (% EXPECTED RETURNS)	**AUGMENTED DATA** SET (%, INFERRED AREAS)
o-5	1 9 . 7 %	10.2%	**9.7%**
5-10	13.0%	12.0%	14.0%
10-20	17.0%	24.7%	20.5%
20-50	22.3%	25.0%	21.4%
50-100	11.3%	16.0%	16.3%
100-200	7.7%	4.5%	6.8%
200-500	5.3%	6.0%	6.6%
500-1000	0.3%	1.5%	2.9%
1 ooo+	0 3%	0 %	1.8%
NUMBER	385	332	856

Source: See table **1.**

FIGURE 2: THE DISTRIBUTION OF OBSERVATIONS ON LAND PURCHASES



4. THE RETURN ON LAND

Table 3 shows the calculated average gross current rate of return on land for 10 year periods between 1600 and 1840, and for 20 year periods for the years before 1600, with the number of observations each period average is based on. That is, it shows the calculated ratio of the rent to the price, in percent. As can be seen the rate of return on holding land first rises slightly from 1540 to 1620, then enters into an almost continuous decline from then till 1830-7.

TABLE 3

We have two types of observation of the value of land from the Commission and other sources. These are observations on actual sales, and observations on what donors expected the rate of return on their money invested in land to be. To make maximal use of the information I combine the two sources to get 10 yearly estimates of the return on land, but allow for expected returns to be different by some amount systematically than actual returns. I thus estimate for each decade:

$$RET = \Sigma \beta_t DUM_t + \gamma DEXP + \psi DCC + \theta DBUB \qquad (1)$$

where ***RET*** is the rate of return on land in percent. Each of the DUM_t is 1 for one of the periods 1540-59, 1560-79, 1580-99, 1600-9, 1610-19, ... and 0 otherwise. $DEXP$ is 1 when the rate of return is an expected rather than an actual one. The estimated values of γ shows how expected returns compared to actual returns. ***DCC*** is a dummy for whether the return observation involved a purchase or sale by a charity. The value estimated for ψ will show whether there was any tendency fur land purchased or sold by charities to yield a higher return because they would have no prestige interest in land ownership. ***DBUB*** is a dummy for the period of the South Sea Bubble in 1720 when rates of return on other assets seem to have fallen sharply.

TABLE 3: THE RATE OF RETURN FROM LAND TRANSACTIONS

period	CHARITY COMMISSION N	CHARITY COMMISSION GROSS RATE OF RETURN	ALL DATA N	ALL DATA GROSS RATE OF RETURN	NET RATE OF RETURN
1540-59	10	5.07	10	5.07	5.07
1560-79	7	4.72	7	4.72	4.72
1580-99	18	5.12	19	5.12	5.12
1600-9	20	5.68	30	5.68	5.68
1610-9	30	5.50	30	5.50	5.50
1620-9	**44**	**5.48**	**44**	**5.48**	**5.48**
1630-9	48	5.42	48	5.42	5.42
1640-9	30	5.21	30	5.21	5.21
1650-9	**28**	**5.27**	**41**	5.36	5.36
1660-9	27	5.29	27	5.29	5.29
1670-9	37	**5.37**	50	5.42	5.42
1680-9	41	5.06	50	5.10	5.10
1690-9	29	5.06	**29**	5.06	4.49
1700-9	46	4.93	58	4.90	4.18
1710-9	45	**5.04**	75	4.93	**4.41**
1720-9	30	4.68	71	4.38	4.04
1730-9	29	4.41	49	4.18	3.93
1740-9	12	4.16	20	4.16	4.16
1750-9	19	4.62	37	4.18	3.82
1760-9	7	4.59	28	3.73	3.38
1770-9	10	3.63	25	3.52	3.25
1780-9	14	4.01	29	4.00	**3.64**
1790-9	18	3.67	31	3.69	3.46
1800-9	**38**	**3.50**	**48**	**3.53**	**3.41**
1810-9	54	3.51	54	3.51	3.41
1820-9	34	3.29	34	3.29	3.19
1830-9	28	4.14	28	4.14	4.00

Note: There were taxes on land before 1690 which are not included in this table.
Sources: See the text and Clay (1974), Table 1.

The estimated values of β_t for each decade are what are recorded in the second column of table 3. The estimated value of y, the coefficient measuring the difference between expectations and actual rates of return is -.08%, and is both quantitatively and statistically insignificant. This implies that peoples' expectations about rates of return available on real assets recorded in such documents as wills on average reflected market conditions. Thus people from seem to have had close to correct beliefs about what rate of return was available from investing in land.

The estimated value of θ, the coefficient measuring differences in returns during the part of 1720 that coincided with the South Sea Bubble, is -1.14, showing that the bubble drove down returns elsewhere in the economy. The purchases that are reflected here are largely those of the directors of the South Sea Company. Since they were willing to accept a much lower rate of return on land than was usual at a time when the value of their South Sea Stock was rising rapidly this suggests they knew that the rise in price was not based on fundamentals. The decline in the rate of return on land in 1720 may thus reflect the sudden rise in the number of purchasers seeking large estates created by the huge wealth gains of those who had participated heavily in the bubble.

The estimated value of ψ, the coefficient showing to what degree the return on land bought or sold by charities had a higher or lower rate of return than private transactions is -.098%, but is not statistically different from zero. Thus charities seem to derive the same rate of return from land as private purchasers. Other evidence that charities were indeed representative purchasers comes from comparing the rates of return calculated above with two other series available for some of these years. Clay (1974) gives information on the rate of return on land for the years 1650-9, 1670-l 689, and 1700- 1809 (238 observations in all) drawn largely from estate sources. As figure 3 shows his series is broadly consistent with the series derived above. On average for the decades where our data overlap the returns he reports are 0.21% lower than the returns reported in the first column of Table 3, but this difference is not statistically significant. This supports the notion that the returns drawn from the Charity Commission reports are a good indication of returns on land in the estate sector as well.

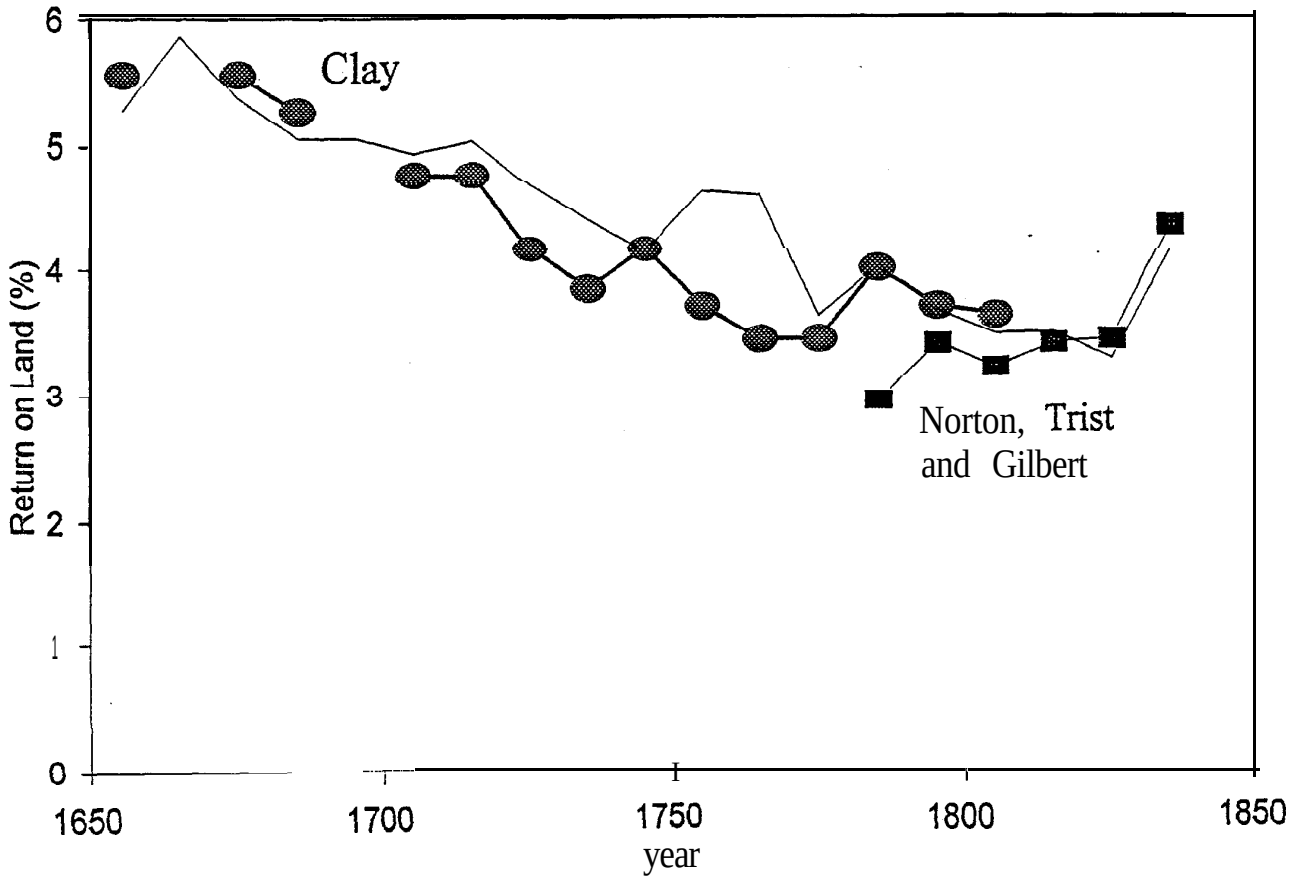
FIGURE 3

Norton, Trist and Gilbert give a series for the rate of return on farmland from 1781 to 1880 based on a sample of land sales by auction.[24] Again as the figure shows where the series overlap the two series are broadly consistent. Since the number of observations in each decade are given by Clay, table 3 combines the estimates of the rate of return on land from my sources with Clay's estimates, weighting by the number of observations in each series in each decade. As this expanded series shows the gross return on land is almost 5.5% in the early 16th century, while by the 1760s it is typically below 4%.

Table 3 also shows the return on land net of the land tax. The British government from 1692 till 1799 derived a large part of its revenue from a tax on land. This tax was originally supposed to apply to all property, so that income from mortgages, bond lending, and rent charges would be equally affected. The tax soon came to be called the land tax, however, since this was the asset it was effectively levied upon. The tax should thus have pushed the rent/price ratio on land up relative to the return on other assets. The tax was initially supposed to be levied at the rate of 20% of the rental value of land, but widespread evasion made the effective yield much lower. Later the tax became fossilized as a fixed assessment per piece of land, so that when rents rose in the late eighteenth century it was a much smaller percentage of the rental value. It is possible, however, to derive an estimate of the effect of the tax in all the years from 1690 on using an index of the movement of rents per acre derived from 20,000 observations on land values in the Charity Commission reports compared to the total land tax levied in each year. This procedure implies that the land taxes was only about 3% of rental value of the land by the 1820s, and about 10% in the 1690s. This in turn implies that the tax reduced yields by about .14% only in the 1820s and by .47% in the 1690s. The return on land net of the land tax is shown in table 3 in the last column. This implies an even greater decline in the net return on land holding from 1620 on.

[24] Norton, Trist and Gilbert (1962).

FIGURE 3: THE RETURN ON LAND FROM VARIOUS SOURCES COMPARED



The calculated net return on farmland does not take account of the expenses of major repairs to buildings which were generally borne by the landlord. But it equally excludes gains from the periodic sales of standing timber which would increase the measured returns. Timber sales were a surprisingly substantial source of additional income on many charity plots and estates, and often the rebuilding of barns and farmhouses was entirely financed by the sale of standing timber.

5. THE RETURN ON RENT CHARGES

For rent charges we have two types of observation, the rate of return and the expected rate of return. To combine them into an index of rates of return on real assets over time as above I run the following regression:

$$RET = \Sigma\ \beta_t DUM_t + \gamma DEXP$$

where each of the DUM_t is 1 for one of the periods 1560-79, 1580-9, 1590-9, 1600-9, ... and 0 otherwise. DEXP is deflned as in the real asset regression. The estimated value of γ is -.061% which is not statistically or quantitatively significant.[25] This implies that again that expectations about rates of return available for rent charges or annuities recorded in such documents as wills were not significantly biased on average.

Table 4 shows the estimates of rates of return on rent charges, from 1560 to 1830-7, with the number of observations for each decade. As can be seen the rate of return on rent charges also rises from 1560 to 1620, then enters into a decline from then till the 1780s, at which time the rates of return rise again. Table 4 also shows the difference in between the rate of return on rent charges and the net rate of return on land. As can be seen rent charges yield more than land in all periods, though the average difference is only 0.5%. In particular the table shows no sign of the very large gap between the return on land and other assets in the early seventeenth century which

[25] The standard error of γ is .086.

lead Robert Allen to posit that expected capital gains on land were an important factor in determining the demand for land.

TABLE 4

Figure 4 portrays the net return from land and the return from rent charges by decade. As can be seen the differential varies little over time, being somewhat larger in the years after 1790.

FIGURE 4

The realized rate of return on farmland compared to other assets depended on the movement of nominal land rents. The last column of table 4 shows the calculated growth rate of land rents in percent per year over the next twenty years from the mid point of each decade. The rent data is derived from 20,000 observations on land rents and land prices from 1540 to 1837 from the same Charity Commission reports the rate of return observations come from. The average growth rate of nominal rents was 0.7% from 1540 to 1337. This means that in practice land yielded a very small amount more than rent charges of 0.2.

There is, however, no evidence that future gains in nominal rents were being anticipated by land purchasers. If this was the case then the difference between current returns on land and on rent charges should have widened in periods before rapid growth of land rents. If we estimate the relationship

$$\Delta r = a + bGRENT$$

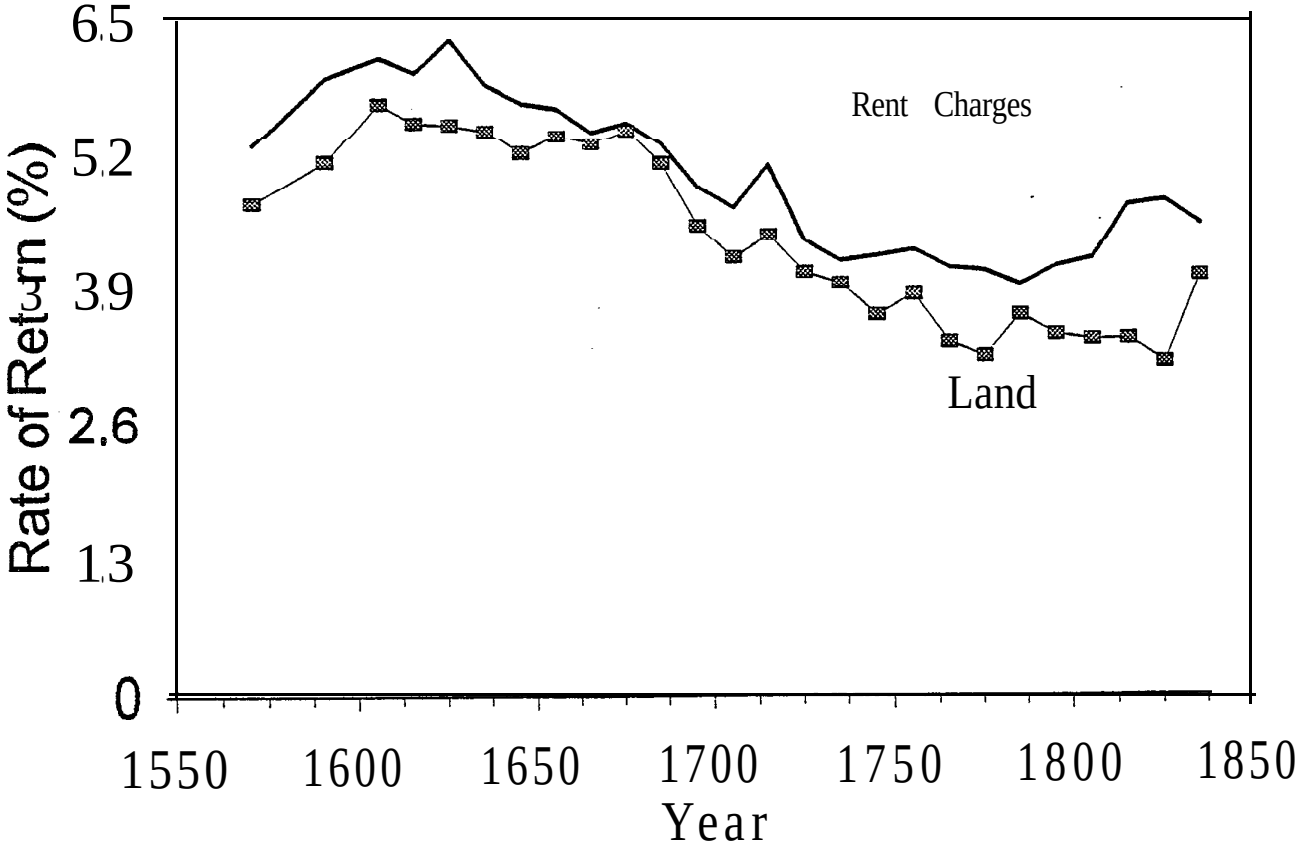
where Δr is the difference in returns in percent , and *GRENT* is the rate of growth of land rents in percent over the next twenty years, then the coefficient b should be estimated as being equal to 1. When we carry out this estimation the estimated value of b is only -.03, and the estimated coefficient is not statistically significantly different from 0. This implies that future actual rent gains had no effect on the current prices of land in the period 1540 to 1837. Nominal rent gains and losses most likely were not anticipated.

TABLE 4: THE **RATE OF RETURN FROM RENT CHARGES**

period	RENT CHARGES N	RATE OF RETURN	RENT CHARGE - LAND	GROWTH RATE OF RENTS (%)
1560-79	14	5.28	0.6	3.07
1580-99	24	5.92	0.8	2.32
1600-9	31	6.12	0.4	1.41
1610-9	42	5.97	0.5	0.14
1620-9	46	6.28	0.8	0.24
1630-9	47	5.86	0.4	0.47
1640-9	30	5.68	0.5	1.40
1650-9	51	5.63	0.3	0.68
1660-9	58	5.40	0.1	-0.71
1670-9	77	5.50	0.1	-0.21
1680-9	45	5.28	0.2	-0.51
1690-9	44	4.87	0.4	-0.33
1700-9	53	4.67	0.5	1.15
1710-9	40	5.08	0.7	0.15
1720-9	40	4.35	0.3	-0.16
1730-9	39	4.15	0.2	0.99
1740-9	22	4.20	0.6	1.03
1750-9	26	4.26	0.4	1.12
1760-9	11	4.08	0.7	0.59
1770-9	15	4.05	0.8	1.52
1780-9	17	3.92	0.3	3.29
1790-9	20	4.10	0.6	2.44
1800-9	15	4.18	0.8	0.25
1810-9	32	4.68	1.3	-1.28
1820-9	13	4.73	1.5	-1.26
1830-9	2	4.51	0.5	

Note: The second last column gives the difference between the rate of return on rent charges and the rate of return on land net land tax.

FIGURE 4: THE RETURN ON LAND AND RENT CHARGES BY DECADE, 1560-1837



By the same token there is no evidence for Allen's contention that land purchasers incorporated into their expectations the growth rate of nominal rents experienced in the last 10 or 20 years. If we perform the above regression, but look at the difference in returns as predicted from the growth of rents in the previous 20 years we find again absolutely no relationship. As far as can be told expectations about capital gains from holding land did not vary over time.

There is no sign that the higher returns associated with rent charges declined over time. Indeed if anything the difference is greater in the last decades of the period, in the years after the 1790s.

6. MARKET SEGMENTATION

The section above offers one test of the idea that much of the value derived from land in pre-industrial England and Wales was from the status it conferred rather than the financial returns. In this section we consider two further tests of this view which involve looking at the return on different sizes of land purchase, and the return on land located close to London compared to that located in remote districts.

Habakkuk argues that there were two types of purchaser of land: the buyers of large estates for prestige purposes and those who bought land as a pure investment good. How could these two types of buyers exist in rhe same market? One way would be because there was a limited amount of land held in the form of large estates, and thus the price of this type of land was driven up. The problem here is that it should then be profitable for entrepreneurs to assemble estate sized pieces of land by putting together smaller purchases. Or those desiring an estate should simply buy smaller blocks of adjacent commercial farmland. Another way that the two types of buyers could coexist is that the numbers of those who derived psychic income from land could be small enough that they did not have to pay any premium for their pleasures. By not demanding all the land the landed aristocracy could get the full commercial return from land. Effectively land would not be overvalued when measured by its monetary returns.

I can use the data from the Charity Commission reports to measure if there is any evidence in favor of the first notion, that the return on different types of land varied. For some of the land purchased by charities was in big enough pieces that it was in the estate category. Forty of the purchases, for example, were of blocks of land equivalent to more than 500 acres of farmland, which would qualify as at least a small estate. To test whether the purchasers of larger blocks of land paid more per unit of rent I modify equation (1) above to

$$RET = \Sigma \beta_t DUM_t + \gamma DEXP + \theta DBUB + \eta AREA \qquad (3)$$

The estimated value of the coefficient η measuring the effect of the size of the land purchase on returns is however only .00016, and is again statistically insignificant. Thus there is no sign that larger parcels of land offered a lower rate of return. There is no clear segmentation of the market into an "economic" portion on small plots and farms and a "prestige" sector encompassing larger farms and collections of farms.

The second test that I can here perform of the view that many estates were bought for their "psychic" returns in part is to look at the return on property as a function of its distance from London. London was the great financial, commercial and administrative center of England and Wales even in the sixteenth century. Consequently many wealthy people either conducted their business thcrc, or needed to be in London frequently on business, administrative and social matters.

The difficulty of travel throughout most of the period 1540 to 1837 meant that for those of the wealthy who wanted a country estate for social purposes the closer the estate was to London the more convenient it would be. Certainly in the sixteenth, the seventeenth, and even the early eighteenth centuries the difficulties of communication between London and more remote counties are very great. In the late sixteenth century the usual method of travel was by horseback. If frequent changes of horses could be arranged the traveler could cover 24-50 miles per day, but where frequent changes of horses were impossible the distance covered would be only half as

much.26 At this rate the journey from London to York in the north would take anywhere from 4 to 16 days. After the mid seventeenth century stage coach travel became available. The speeds were on average only about 30 miles per day. On better roads slightly faster travel was possible. Thus the London York journey took 5-6 days, while the London Newcastle journey took only 6 days from 1660 on. Yet until 1732 there was only one coach per week between London and Newcastle.[27] In the seventeenth century the mail was carried at the speed of between 3.5 and 5.5 miles per hour depending in part on the time of year. In the first half of the seventeenth century stage coach speeds had improved a little, but few coaches traveled at above 40 or 50 miles a day. But the highways were still beset by robbers, and the coachman had to travel armed. It was only after 1750 that journey times began to drop rapidly.28

The high costs of travel would imply that if land was bought for psychic returns that required visiting the land periodically, or residing upon it, then the prices of estates close to London would be bid up relative to their money rents compared to more remote properties. To test this I estimated equation (1) again, but with this time a variable measuring the distance of each piece of land from London in kilometers (or in the case of expected rates of return the distance of the expector from London). The estimated coefficient on distance from London is positive and statistically significant at the 5% level. The calculated effect is that for each 100 km we move from London the current return on land ownership rises by .08%. This implies that rates of return in the very north of England would be about 0.4% higher than in London.

When, however, I estimate the same equation for rent charges, looking at the effect of distance from London on these I find that for ever 100 km we go from London the rate of return increases by 0.11%, and the effect is again statistically significant, this time at the 1% level. The

26 Jackman (1962), p. 134.

27 Jackman (1962), pp. 134-5.

28Jackman (1962), p. 336.

magnitude of this effect is very similar as for land, and it seemingly implies that the effect on returns on land of distance from London was not a result of the psychic benefits of land ownership, but of a lack of complete integration of regional capital markets.

7. CONCLUSIONS

The various explorations conducted above of the return on holding land and rent charges between 1540 and 1837 all suggest one thing. The psychic benefits some owners derived from the possession of farmland did not drive the return on farmland much below the return on comparable assets, except perhaps for the years after 1790. The landed classes did not have.to choose between owning land and maximizing their economic position. There was enough land that while some purchasers may have derived psychic benefits from owning land, there were many who bought land purely as an economic proposition.

Interestingly there is evidence that this conclusion also applies to England in the Middle Ages. Marx believed that the late fifteenth and early sixteenth centuries saw a transition in England between a society where land was sought because it brought dependent tenants who would be the power base for the estate owner and one where land was sought for the "capitalist" motive of money income.[29] The evidence for the period after 1560 is quite consistent with Marx's views of the "capitalist" nature of agriculture by this time. But on this same view there should be a rise in the rate of return on land relative to rent charges between 1300 and 1560. In an earlier article I calculated that the average rate of return on rent charges in the thirteenth century was 10.25%. Bean reports for land that "In the middle of the thirteenth century the current rate of purchase was ten years' annual value."[30] Thus land yielded just slightly less than rent charges, as was the case for most of the period 1540 to 1790. Hence there is no sign of the

[29] Marx (1977), pp. 877-883.

[30] Clark (1988), table 3, p. 273, Bean (1991), p. 567.

transition that Marx posited in motives for land holding. There is no sign before the Industrial Revolution of anyone ever paying much "psychic premium" for land.

In this respect then England even in the Middle Ages appears very different from India even in the twentieth century. For in India the marginal buyer of land seems to have been sought much more than material returns from land, which is not the case for England even as early as 1300.

The reason the returns on land relative to other assets may have begun to decline after 1790 could well be the growth of both population and incomes. Land was in fixed supply. But between 1770 and 1850 the population of Britain more than doubled, real incomes rose, and the inequality in wealth distribution stayed constant. Thus the numbers of those with the income to consider investing in a small or large landed estate, or to consider acquiring a country residence may well have tripled, while the supply of land remained unchanged. In that case it is quite possible that the demand curve for land DD portrayed in figure 1 moved to the right so that all purchasers began to derive some psychic; premium from land.

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